

Hematopoietic Agents: Thrombopoiesis (TPO) Stimulating Proteins

Medical policy no. 82.40.50

Effective Date: July 1, 2019

Note:

- For non-preferred agents in this class/category, patients must have had an inadequate response or have had a documented intolerance due to severe adverse reaction or contraindication to at least TWO* preferred agents.
 - *If there is only one preferred agent in the class/category documentation of inadequate response to ONE preferred agent is needed
- If a new-to-market drug falls into an existing class/category, the drug will be considered non-preferred and subject to this class/category
 prior authorization (PA) criteria

Background:

Thrombopoeitin (TPO) is a protein which plays a role in the regulation of platelet production. TPO and its receptor act in several different ways to increase platelet count. Reduced TPO production and function may lead to thrombocytopenia and anemia. TPO stimulating proteins have demonstrated efficacy in several conditions.

Medical necessity:

| Drug | Medical Necessity |
|--|--|
| avatrombopag (Doptelet) | Avatrombopag may be considered medically necessary for the following conditions: 1. Thrombocytopenia in adult patients with chronic liver disease who are scheduled to undergo a procedure. |
| eltrombopag olamine (Promacta) | Eltrombopag olamine may be considered medically necessary for the following conditions: 1. Thrombocytopenia in patients with chronic immune thrombocytopenia (ITP) who have had an insufficient response to corticosteroids, immunoglobulins, or splenectomy. 2. Patients with severe aplastic anemia who have had an insufficient response to immunosuppressive therapy. 3. Thrombocytopenia in patients with chronic hepatitis C to allow the initiation and maintenance of interferon-based therapy. |
| fostamatinib disodium (Tavalisse) | Fostamatinib disodium may be considered medically necessary for the following conditions: 1. Thrombocytopenia in patients with chronic immune thrombocytopenia (ITP) who have had an insufficient response to corticosteroids, immunoglobulins, or splenectomy. |
| lusutrombopag (Mulpleta) | Lustrombopag may be considered medically necessary for the following conditions: 1. Thrombocytopenia in adult patients with chronic liver disease who are scheduled to undergo a procedure. |

Policy: TPO Stimulating Proteins

Medical Policy No. 82.40.50

Last Updated 04/29/2020



| romiplostim (Nplate) | Romiplostim may be considered medically necessary for the following conditions: 1. Thrombocytopenia in patients with chronic immune thrombocytopenia (ITP) who have had an insufficient response to corticosteroids, immunoglobulins, or splenectomy. |
|-------------------------------|--|
| | |

Clinical policy:

| Indication | Clinical Criteria (Initial Approval) |
|--|---|
| Chronic Immune (Idiopathic) Thrombocytopenic Purpura (ITP) Preferred drugs: fostamatinib disodium (Tavalisse) romiplostim (Nplate) eltrombopag olamine (Promacta) | Patient has diagnosis of chronic immune thrombocytopenic purpura (ITP); AND Documentation of platelet count of less than 30x10⁹/L (30,000/mm³); AND Patient has a history of failure, contraindication, or intolerance to at least ONE of the following: a. corticosteroids; OR b. immunoglobulins; OR c. rituximab; OR d. previous history of splenectomy If ALL criteria are met, the request will be approved for 12 months. |
| | Criteria (Reauthorization) |
| | Documentation of positive clinical response (e.g., increase in platelet count) If ALL criteria are met, the request will be approved for 12 months. |
| Indication | Clinical Criteria (Initial Approval) |
| Aplastic Anemia | Patient has diagnosis of aplastic anemia; AND Patient has a history of failure, contraindication, or intolerance to at |
| Preferred drugs: eltrombopag olamine (Promacta) | least ONE course of immunosuppressive therapy. Appropriate immunosuppressive therapy include but are not limited to: |
| | least ONE course of immunosuppressive therapy. Appropriate immunosuppressive therapy include but are not limited to: |



| Preferred drugs: eltrombopag olamine (Promacta) | Thrombocytopenia is preventing the initiation of interferon-based therapy or limiting the ability to maintain interferon-based therapy; AND Patient has ONE of the following: a. a reason why cannot use direct acting antivirals for hepatitis C; OR b. planning to initiate and maintain interferon-based treatment; OR c. currently receiving interferon-based treatment If ALL criteria are met, the request will be approved for 6 months. Criteria (Reauthorization) Documentation of positive clinical response (e.g., increase in platelet count); AND Patient is currently on interferon-based therapy for treatment of chronic hepatitis C If ALL criteria are met, the request will be approved for 6 months. |
|---|---|
| Indication | Clinical Criteria (Initial Approval) |
| Thrombocytopenia in adult patients with chronic liver disease who are scheduled to undergo a procedure Preferred drugs: avatrombopag (Doptelet) lusutrombopag (Mulpleta) | Age 18 and older; AND Used for the treatment of thrombocytopenia in a patient with chronic liver disease who is scheduled to undergo a procedure; a. Patient should undergo their procedure within 8 days after the last dose If ALL criteria are met, the request will be approved for 5-to-7 days supply for each of the approved procedures |

Dosage and quantity limits:

| Drug Name | Dose and Quantity Limits |
|---|---|
| avatrombopag (Doptelet) | #3 tablets per day for 5-days |
| eltrombopag olamine (Promacta) | ITP: 75 mg per day |
| • 12.5mg tablet: #1 per day | o #1 75mg tablet per day |
| 25mg tablet: #1 per day | Aplastic Anemia: 150 mg per day |
| 50mg tablet: #2 per day | #2 75mg tablets per day |
| 75mg tablet: #2 per day | Hepatitis C: 100 mg per day |
| 25mg oral suspension | o #2 50mg tablets per day |
| fostamatinib disodium (Tavalisse) | 100 mg tablets |
| | #2 tablets per day |
| | 150 mg tablets |
| | #2 tablets per day |
| lusutrombopag (Mulpleta) | #1 tablet per day for 7 days |
| | |



| romiplostim (Nplate) | 10 mcg/kg per week |
|--|--------------------|
| Subcutaneous injection | |

Coding:

| HCPCS Code | Description |
|------------|-------------------------------|
| J2796 | Injection, romiplostim 10 mcg |

References

- 1. Doptelet (avatrombopag) [prescribing information]. Durham, NC: Dova Pharmaceuticals, Inc; May 2018.
- 2. Terrault N, Chen YC, Izumi N, et al. Avatrombopag before procedures reduces need for platelet transfusion in patients with chronic liver disease and thrombocytopenia [published online May 17, 2018]. Gastroenterology. doi: 10.1053/j.gastro.2018.05.025.
- 3. Mulpleta (lusutrombopag) [prescribing information]. Florham Park, NJ: Shionogi Inc; July 2018.
- 4. Nplate (romiplostim) [prescribing information]. Thousand Oaks, CA: Amgen; October 2017.
- 5. Bussel JB, Buchanan GR, Nugent DJ, et al. A Randomized, Double-Blind Study of Romiplostim to Determine Its Safety and Efficacy in Children With Immune Thrombocytopenia. Blood, 2011, 118(1):28-36.
- 6. Bussel JB, Kuter DJ, George JN, et al. AMG 531, a Thrombopoiesis-Stimulating Protein, for Chronic ITP. N Engl J Med, 2006, 355(16):1672-81.
- 7. Bussel JB, Kuter DJ, Pullarkat V, et al. Safety and Efficacy of Long-Term Treatment With Romiplostim in Thrombocytopenic Patients With Chronic ITP. Blood, 2009, 113(10):2161-71.
- 8. Kuter DJ. New Thrombopoietic Growth Factors. Blood, 2007, 109(11):4607-16.
- 9. Kuter DJ, Bussel JB, Lyons RM, et al. Efficacy of Romiplostim in Patients With Chronic Immune Thrombocytopenic Purpura: A Double-Blind Randomised Controlled Trial. Lancet, 2008, 371(9610):395-403.
- 10. Kuter DJ, Rummel M, Boccia R, et al. Romiplostim or Standard of Care in Patients With Immune Thrombocytopenia. N Engl J Med, 2010, 363(20):1889-99.
- 11. **Promacta (eltrombopag)** [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals; September 2018.
- 12. Bussel JB, Cheng G, Saleh MN, et al. Eltrombopag for the Treatment of Chronic Idiopathic Thrombocytopenic Purpura," N Engl J Med, 2007, 357(22):2237-47.
- 13. Bussel JB, Provan D, Shamsi T, et al. Effect of Eltrombopag on Platelet Counts and Bleeding During Treatment of Chronic Idiopathic Thrombocytopenic Purpura: A Randomised, Double-Blind, Placebo-Controlled Trial," Lancet, 2009, 373(9664):641-8.
- 14. Cheng G, Saleh MN, Marcher C, et al. Eltrombopag for Management of Chronic Immune Thrombocytopenia (RAISE): A 6-Month, Randomised, Phase 3 Study," Lancet, 2011, 377(9763):393-402.
- 15. McHutchison JG, Dusheiko G, Schiffman ML, et al. Eltrombopag for Thrombocytopenia in Patients With Cirrhosis Associated With Hepatitis C," N Engl J Med, 2007, 357(22):2227-36.
- 16. Olnes MJ, Scheinberg P, Calvo KR, et al. Eltrombopag and Improved Hematopoiesis in Refractory Aplastic Anemia," N Engl J Med, 2012, 367(1):11-9. PubMed 22762314
- 17. Saleh MN, Bussel JB, Cheng G, et al. Safety and Efficacy of Eltrombopag for Treatment of Chronic Immune Thrombocytopenia: Results of the Long-Term, Open-Label EXTEND Study," Blood, 2013, 121(3):537-45. PubMed 23169778
- 18. Suzuki N, Hiraga J, Hariyama Y, et al. A low birth weight infant with no malformations delivered by a primary immune thrombocytopenia patient treated with eltrombopag. Int J Hematol. 2017. doi: 10.1007/s12185-017-2383-1. PubMed 29188582
- 19. Townsley DM, Scheinberg P, Winkler T, et al. Eltrombopag Added to Standard Immunosuppression for Aplastic Anemia. N Engl J Med. 2017;376(16):1540-1550. PubMed 28423296



- 20. **Tavalisse (fostamatinib)** [prescribing information]. South San Francisco, CA: Rigel Pharmaceuticals, Inc; April 2018.
- 21. Bussel J, Arnold DM, Grossbard E, et al. Fostamatinib for the treatment of adult persistent and chronic immune thrombocytopenia: results of two phase 3, randomized, placebo-controlled trials. Am J Hematol. 2018. doi: 10.1002/ajh.25125. PubMed 29696684
- 22. Neunert C, Lim W, Crowther M, Cohen A, et al. The American Society of Hematology 2011 evidence-based practice guideline for immune thrombocytopenia. Blood. 2011; 117(16): 4190 4207.
- 23. Provan D, Stasi R, Newland AC, et al. International consensus report on the investigation and management of primary immune thrombocytopenia. Blood. 2010;115(2):168-186.
- 24. National Comprehensive Cancer Network Guidelines in Oncology. Myelodysplastic Syndromes. Version 2.2019.
- 25. MCG Care Guidelines, Romiplostim, 22nd edition, 2018.
- 26. Parodi E, Rivetti E, Amendola G, Bisogno G, et al. Long-term follow-up analysis after rituximab therapy in children with refractory symptomatic ITP: identification of factors predictive of a sustained response. Br J Haematol. 2009;144(4):552. PMID 19036077
- 27. Patel VL, Mahévas M, Lee SY, Stasi R, et al. Outcomes 5 years after response to rituximab therapy in children and adults with immune thrombocytopenia. Blood. 2012;119(25):5989. PMID 22566601
- 28. Oved JH, Lee CSY, Bussel JB, et al. Treatment of Children with Persistent and Chronic Idiopathic Thrombocytopenic Purpura: 4 Infusions of Rituximab and Three 4-Day Cycles of Dexamethasone. J Pediatr. 2017;191:225. PMID 29173312
- 29. Neunert C, Despotovic J, Haley K, Lambert MP, et al. Thrombopoietin Receptor Agonist Use in Children: Data From the Pediatric ITP Consortium of North America ICON2 Study. Pediatr Blood Cancer. 2016;63(8):1407. PMID 27135461
- 30. Sobota A, Neufeld EJ, Lapsia S, and Bennett CM. Response to mercaptopurine for refractory autoimmune cytopenias in children. Pediatr Blood Cancer. 2009 Jan;52(1):80-4. PMID 18726904
- 31. Panigrahi A, Clark A, Myers J, and Raj A. A novel immunomodulatory treatment involving mycophenolate mofetil and corticosteroids for pediatric autoimmune cytopenias. Pediatr Blood Cancer. 2017;64(2):287. PMID 27615037
- 32. Miano M, Ramenghi U, Russo G, Rubert L, Barone A, et al. Mycophenolate mofetil for the treatment of children with immune thrombocytopenia and Evans syndrome. A retrospective data review from the Italian association of paediatric haematology/oncology. Br J Haematol. 2016;175(3):490. Epub 2016 Jul 22. PMID 27447678
- 33. Boruchov DM, Gururangan S, Driscoll MC, and Bussel JB. Multiagent induction and maintenance therapy for patients with refractory immune thrombocytopenic purpura (ITP). Blood. 2007;110(10):3526. PMID 17698634
- 34. Parameswaran R, Lunning M, Mantha S, et al. Romiplostim for management of chemotherapy-induced thrombocytopenia. Support Care Cancer. 2014;22(5):1217-1222.
- 35. Bakanay SM, Demirer T. Novel agents and approaches for stem cell mobilization in normal donors and patients. Bone Marrow Transplant. 2012;47(9):1154-1163.
- 36. Moussa MM, Mowafy N. Pre-operative use of romiplostim in thrombocytopenic patients with chronic hepatitis C and liver cirrhosis. J Gastroenterol Hepatol. 2013;28(2):335-341.
- 37. Decroocq J, Marcellin L, Le Ray C, Willems L. Rescue therapy with romiplostim for refractory primary immune thrombocytopenia during pregnancy. Obstet Gynecol. 2014;124(2 Pt 2):481-483.
- 38. Sekeres MA, Kantarjian H, Fenaux P, et al. Subcutaneous or intravenous administration of romiplostim in thrombocytopenic patients with lower risk myelodysplastic syndromes. Cancer. 2011;117(5):992-1000.
- 39. Giagounidis A, Mufti GJ, Fenaux P, et al. Results of a randomized, double-blind study of romiplostim versus placebo in patients with low/intermediate-1-risk myelodysplastic syndrome and thrombocytopenia. Cancer. 2014;120(12):1838-1846.
- 40. Prica A, Sholzberg M, Buckstein R. Safety and efficacy of thrombopoietin-receptor agonists in myelodysplastic syndromes: A systematic review and meta-analysis of randomized controlled trials. Br J Haematol. 2014;167(5):626-638.



History

| Date | Action and Summary of Changes |
|------------|---|
| 04.29.2020 | Dosage and quantity limits corrected for romiplostim (Nplate) |
| 06.12.2019 | Updated dosage and quantity limits section |
| 05.06.2019 | New Policy |